

Appl. No.: 10/657,679

Amendment Dated: July 25, 2008

Reply to Office Action of April 30, 2008

**REMARKS/ARGUMENTS**

In the final Office Action, claim 12 has been rejected as an improper dependent claim. In this response, claim 12 has been cancelled and thereby overcomes this rejection. Since this amendment reduces the issues on appeal, entry of this amendment is proper.

Applicants request reconsideration and withdrawal of the prior art rejections in light of the following remarks. The Examiner has rejected claim 18 as being unpatentable over Revord in view of Klus, Brouard and Randel. However, when these four documents are taken for what they actually disclose and when they are not "interpreted" by the Examiner, who adds to the disclosures of these documents some features which are neither disclosed nor suggested in these documents, the prior art does not permit the person of skill in the art to obtain the method of claim 18. The Examiner has failed to establish a *prime facie* case of obviousness. An essential requirement is that the cited references must teach every feature set forth in the claim. This requirement has not been satisfied, and therefore the rejection is improper and should be withdrawn.

Revord discloses a method for manufacturing a building product. The method disclosed in column 3 consists of mixing calcined gypsum (plaster) and water, compressing the mixture, so that the water is dispersed or diffused throughout the plaster (3:20-23), unmolding the product (3:25-28) which "then sets and the diffused water chemically combines with the calcined gypsum (the plaster) to provide a crystalline mass" (3:28-30).

It is recognized and admitted by those skilled in the art that when plaster is mixed with water, it begins to crystallize (to "set") as soon as it is in contact with water. In the Revord process, the plaster crystallization begins when the plaster is mixed with water. The water does not disperse throughout the gypsum because of various factors such as surface tension of the water and the complete rehydration of the plaster is not effected (3:13-16). For this reason, the mixture is compressed so that water is dispersed or diffused uniformly throughout the plaster (3:21-23). The crystallisation continues during this compression. No means is disclosed by Revord for preventing this crystallization.

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When the product is unmolded, the crystallization continues in the product during a period which may be rather long (several minutes to several hours, depending on the operating conditions, the type of plaster and the ambient temperature).

It is not admissible to say that in Revord, the crystallisation begins only when the product is unmolded and that there is no crystallization under pressure in the mold. It is clear from Revord that the pressure which is applied serves to disperse water throughout the calcined gypsum. Nothing in the Revord reference indicates that the pressure is sufficient to retard crystallization.

Contrary to the Examiner's opinion and to her affirmation in the Office Action, the amount of pressure applied to the mixture in the mold, together with the quantity of water in the mixture are not sufficiently high to prevent the plaster crystallization under pressure in the mixture.

As is noted at column 2 lines 20 to 23, an object of the Revord invention is to provide a gypsum-based building product with a minimum amount of water of rehydration. Thus, in the Examples, Revord uses a very limited quantity of water. In Examples 1 to 10, which do not entail using filler together with the gypsum, the amount of water ranges from 16 to 20 parts water to 100 parts gypsum. These examples do not teach what is claimed in claim 18, where the mixture must include filler and it must have water at a ratio of 35 to 45 parts by weight water to 100 parts plaster.

Examples 11 to 23 use a mixture of gypsum, perlite (filler) and water. However, the amount of filler employed is well below that which is specified by claim 18. These examples use from 2 to 20 parts by weight perlite to 100 parts gypsum (2% to 16.6% filler), whereas claim 18 requires 50 to 70% filler. The amount of water present ranges from 16 to 20 cc of water to 100 grams gypsum, i.e. 16 to 20 parts water. This is well below the 35 to 45 parts per 100 specified in claim 18.

In the Official Action, the Examiner points to the teaching at column 1 lines 64 to 69 in support of Revord meeting the claim 18 water proportions requirement. However, it should be evident that this disclosure is a reference to the prior art slurry approach used when rehydrating gypsum and is not the Revord invention. As noted earlier, Revord seeks to use a minimum

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amount of water of rehydration, and following the teachings of Revord, the amount of water would be well below that specified by claim 18. Therefore, Revord does not teach this aspect of applicants' claimed invention.

The Examiner recognizes that Revord is silent to the claimed 30-45 seconds (the duration of the compression period) but contends that that this duration is disclosed by Klus and therefore would be obvious. However, this duration is disclosed by Klus for an entirely different product (a fire door core) which differs from the building product disclosed by Revord in that:

- (1) it does not contain plaster (see col. 3, lines 62-63 which states that the fire door core of the present invention does not have a significant amount of gypsum).
- (2) it contains a specific binder which is an alkali metal silicate such as sodium silicate (4:16-17), that the Revord product or the building element of claim 18 do not contain.
- (3) the pressure applied to the mixture is very small (200-300 psi) and different from the pressures used in Revord or in claim 18.

There is nothing in Klus which could teach or suggest to one skilled in the art that a compression duration of 30-45 seconds could inhibit the crystallization of plaster in a mixture of plaster, water and filler when a pressure of 150 bars (about 2100 psi, *i.e.*, 7 or 10 times the pressure used by Klus) is applied to the mixture.

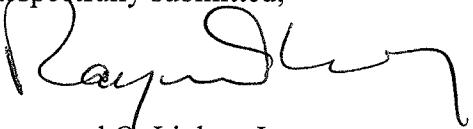
It follows from the above discussion that the combination of Revord and Klus made by the Examiner fails to teach all of the limitations of claim 18 and that a rejection based upon this combination is therefore improper. The additional secondary references relied upon in the rejection do not cure this deficiency. The Raandel et al reference and its failure to teach the claimed invention is discussed fully in the previous response, and the Examiner is directed to those comments.

Reconsideration by the Examiner and withdrawal of the rejection is therefore respectfully solicited.

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It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefor (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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